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Fine-grained dynamic instrumentation of commodity operating system kernels

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↑ REFERENCES

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- 1 J. Almeida and P. Cao. Wisconsin Proxy Benchmark 1.0. <http://www.cs.wisc.edu/-cao/wpbl.O.html>.
- 2 Jennifer M. Anderson, Lance M. Berc, Jeffrey Dean, Sanjay Ghemawat, Monika R. Henzinger, Shun-Tak A. Leung, Richard L. Sites, Mark T. Vandevoorde, Carl A. Waldspurger, William E. Weihl. Continuous profiling: where have all the cycles gone?. [Proceedings of the sixteenth ACM symposium on Operating systems principles, p.1-14, October 05-08, 1997, Saint Malo, France](#)
- 3 Joel Auslander, Matthai Philipose, Craig Chambers, Susan J. Eggers, Brian N. Bershad. Fast, effective dynamic compilation. [Proceedings of the ACM SIGPLAN '96 conference on Programming language design and implementation, p.149-159, May 21-24, 1996, Philadelphia, Pennsylvania, United States](#)
- 4 B. N. Bershad, S. Savage, P. Pardyak, E. G. Sirer, M. E. Fluczynski, D. Becker, C. Chambers, S. Eggers. Extensibility safety and performance in the SPIN operating system. [Proceedings of the fifteenth ACM symposium on Operating systems principles, p.267-283, December 03-06, 1995, Copper Mountain, Colorado, United States](#)

- 5 Adrian Cockcroft, Richard Pettit, Sun performance and tuning (2nd ed.): Java and the Internet, Prentice-Hall, Inc., Upper Saddle River, NJ, 1998
- 6 D. R. Engler, M. F. Kaashoek, J. O'Toole, Jr., Exokernel: an operating system architecture for application-level resource management, Proceedings of the fifteenth ACM symposium on Operating systems principles, p.251-266, December 03-06, 1995, Copper Mountain, Colorado, United States
- 7 Dawson R. Engler, VCODE: a retargetable, extensible, very fast dynamic code generation system, Proceedings of the ACM SIGPLAN '96 conference on Programming language design and implementation, p.160-170, May 21-24, 1996, Philadelphia, Pennsylvania, United States
- 8 D. Ghormley, S. Rodrigues, D. Petrou, and T. Anderson. SLIC: An Extensibility System for Commodity Operating Systems, 1998 USENIX Technicul Conference, New Orleans, June 1998.
- 9 J.K. Hollingsworth, B.P. Miller and J. Cargille. Dynamic Program Instrumentation for Scalable Performance Tools, Sculuble High Petjkwunce Computing Conference, Knoxville, May 1994.
- 10 J.K. Hollingsworth, B.P. Miller, M.J.R. GonGalves, O. Naim, Z. Xu and L. Zheng. MDL: A Language and Compiler for Dynamic Program Instrumentation. International Conference on Parallel Architectures und Compilation Techniques, San Francisco, Nov. 1997.
- 11 Geoffrey H. Kuenning, Kitrace: precise interactive measurement of operating systems kernels, Software—Practice & Experience, v.25 n.1, p.1-21, Jan. 1995
- 12 James R. Larus, Eric Schnarr, EEL: machine-independent executable editing, Proceedings of the conference on Programming language design and implementation, p.291-300, June 18-21, 1995, La Jolla, California, United States
- 13 David Mosberger, Larry L. Peterson, Patrick G. Bridges, Sean O'Malley, Analysis of techniques to improve protocol processing latency, Conference proceedings on Applications, technologies, architectures, and protocols for computer communications, p.73-84, August 28-30, 1996, Palo Alto, California, United States
- 14 George C. Necula, Peter Lee, Safe kernel extensions without run-time checking, Proceedings of the second USENIX symposium on Operating systems design and implementation, p.229-243, October 29-November 01, 1996, Seattle, Washington, United States
- 15 George C. Necula, Peter Lee, The design and implementation of a certifying compiler, Proceedings of the ACM SIGPLAN '98 conference on Programming language design and implementation, p.333-344, June 17-19, 1998, Montreal, Quebec, Canada
- 16 C. Pu, T. Autrey, A. Black, C. Consel, C. Cowan, J. Inouye, L. Kethana, J. Walpole, K. Zhang, Optimistic incremental specialization: streamlining a commercial operating system, Proceedings of the fifteenth ACM symposium on Operating systems principles, p.314-321, December 03-06, 1995, Copper Mountain, Colorado, United States
- 17 Marqo I. Seltzer, Yasuhiro Endo, Christopher Small, Keith A. Smith, Dealing with disaster: surviving misbehaved kernel extensions, Proceedings of the second USENIX symposium on Operating systems design and implementation, p.213-227, October 29-November 01, 1996, Seattle, Washington, United States
- 18 M.I. Seltzer and C. Small. Self-monitoring and Self-adapting Operating Systems. 6th Workshop on Hot Topics in Operating Systems. Cape Cod, MA, May 1997.
- 19 C. Small. A Tool for Constructing Safe Extensible C++ Systems. 4th USENIX Conference on

Object-Oriented Technologies and Systems (COOTS), Santa Fe, NM, April 1998.

20 Amitabh Srivastava , Alan Eustace, ATOM: a system for building customized program analysis tools, Proceedings of the ACM SIGPLAN '94 conference on Programming language design and implementation, p.196-205, June 20-24, 1994, Orlando, Florida, United States

21 Robert Wahbe , Steven Lucco , Thomas E. Anderson , Susan L. Graham, Efficient software-based fault isolation, Proceedings of the fourteenth ACM symposium on Operating systems principles, p.203-216, December 05-08, 1993, Asheville, North Carolina, United States

↑ CITINGS 6

Kyung Dong Ryu , Jeffrey K. Hollingsworth , Peter J. Keleher, Mechanisms and policies for supporting fine-grained cycle stealing, Proceedings of the 13th international conference on Supercomputing, p.93-100, June 20-25, 1999, Rhodes, Greece

Brian K. Schmidt , Monica S. Lam , J. Duane Northcutt, The interactive performance of SLIM: a stateless, thin-client architecture, ACM SIGOPS Operating Systems Review, v.33 n.5, p.32-47, Dec. 1999

Michiel Ronsse , Koen De Bosschere, RecPlay: a fully integrated practical record/replay system, ACM Transactions on Computer Systems (TOCS), v.17 n.2, p.133-152, May 1999

Zhichen Xu , Barton P. Miller , Thomas Reps, Safety checking of machine code, ACM SIGPLAN Notices, v.35 n.5, p.70-82, May 2000

Dylan McNamee , Jonathan Walpole , Calton Pu , Crispin Cowan , Charles Krasic , Ashvin Goel , Perry Wagle , Charles Consel , Gilles Muller , Renauld Marlet, Specialization tools and techniques for systematic optimization of system software, ACM Transactions on Computer Systems (TOCS), v.19 n.2, p.217-251, May 2001

Robert Grimm , Brian N. Bershad, Separating access control policy, enforcement, and functionality in extensible systems, ACM Transactions on Computer Systems (TOCS), v.19 n.1, p.36-70, Feb. 2001

↑ INDEX TERMS

Primary Classification:

D. Software

↳ D.4 OPERATING SYSTEMS

Additional Classification:

D. Software

↳ D.3 PROGRAMMING LANGUAGES

↳ D.3.4 Processors





↳ Subjects: Code generation

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